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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,099	08/03/2001	Chih-Wen Huang	JCLA7249	8700

7590

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EXAMINER

WORKU, NEGUSSIE

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,099

Applicant(s)

HUANG ET AL.

Examiner

Negussie Worku

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 15 is/are rejected.
- 7) ☒ Claim(s) 2-14 and 16-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okita et al. (USP 6,657,748) in view of Spears et al. (US2002/0140996).

With respect to claim 1, Okita et al. discloses a compensation apparatus for image scan, (shown by fig 1 and 2) applied to an optical scanner that comprises a platform to locate an object to be scanned thereon, (contact type image scanner of fig 1A, or reading a surface of original, is adhered to a platen 6 of fig 1A), a photosensitive apparatus (201 of fig 2) with a set of scan photosensitive devices, (photodiodes 201 of fig 2); and a storage apparatus, (RAM 205 of fig 2, is a memory for storing data obtained by reading the document, sec ol.10, lines 45-50) wherein a scanned image is obtained and temporarily stored in the storage apparatus (205 of fig 2) after the object is scanned, see (col.10, lines 45-50) the compensation apparatus (shown by fig 1 and 2) comprising: a set of calibration boards, having two calibration boards located at two

sides of the platform; a set of calibration photosensitive devices, (photodiodes 201A of fig 2) located at two sides of the set of scan photosensitive devices (201 of fig 2) to obtain a set of calibrated images, see (col.10, lines 45-50); and an image processor, (204 of fig 2) to extract and compare the calibrated images for adjusting the scanned image, (shading correction circuit 204, performs shading correction on read image signal on the basis of shading correction data stored in the shading RAM 205 of fig 2, see col.10, lines 45-50).

Okita et al. does not teach or disclose a set calibration boards, having two calibration boards located at two sides of the platform.

Spears et al. in the same area of optical image scanner for compensation for illumination of non uniformity (as shown by fig 2 and 3) teaches a set of calibration boards (204 and 206 of fig 2 and 3), having two calibration boards located at two sides of the platform (platform 202 of fig 2 and 3, see col.3, paragraph 0025, lines 1-5).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus for performing shading correction device of Okita et al. to include: a set calibration boards, having two calibration boards located at two sides of the platform.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading and correction device of Okita et al. by the teaching of Spears et al. for the reason that, the second calibration strip is used to compensate for variation in lamp intensity during a scan. It would have been allowed users to improve image quality resulting from (1) non-uniform photo

sensor sensitivity, (2) non-uniform illumination, (3) contamination in the optical path, such as dust on lens or other optical components, as discussed by Spears et al. in (col.2, Paragraph 0014, lines 1-6).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Okita et al. (USP 6,657,748)

With respect to claim 15, Okita et al. discloses a compensation apparatus for image scan, (shown by fig 1 and 2) applied to an optical scanner that comprises a platform to locate an object to be scanned thereon, (contact type image scanner of fig 1A, or reading a surface of original, is adhered to a platen 6 of fig 1A), a photosensitive apparatus (201 of fig 2) with a set of scan photosensitive devices, (photodiodes 201 of fig 2); and a storage apparatus, (RAM 205 of fig 2, is a memory for storing data obtained by reading the document ,sec ol.10, lines 45-50) wherein a scanned image is obtained and temporarily stored in the storage apparatus (205 of fig 2) after the object is

Art Unit: 2626

scanned, see (col.10, lines 45-50) the compensation apparatus (shown by fig 1 and 2) comprising: a calibration board (shading board 7 of fig 1) at one side of the platform (platen glass 6 of fig 1); a set of calibration photosensitive devices, (photodiodes 201A of fig 2), at one side of the set of scan photosensitive devices (201 of fig 2) to obtain a set of calibrated images by detecting calibrated board see (col.10, lines 45-50); and an image processor, (204 of fig 2) to extract and compare the calibrated images for adjusting the scanned image, (shading correction circuit 204, performs shading correction on read image signal on the basis of shading correction data stored in the shading RAM 205 of fig 2, see col.10, lines 45-50).

Objected to claims having Allowable Subject Matter

5. Claims 2-14 and 16-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claims 2 and 16 the prior art does not teach or disclose the compensation apparatus, wherein the set of calibration photosensitive devices is formed of a plurality of calibration photosensitive devices arranged in a $L \times K$ array at two sides of the set of scan photosensitive devices, and L and K are integers larger than 1.

With respect to claims 3 and 17 the prior art does not teach or disclose the compensation apparatus, wherein the set of scan photosensitive devices is formed of a

Art Unit: 2626

plurality of scan photosensitive devices, and the calibration photosensitive devices have a dimension smaller than that of the scan photosensitive devices.

With respect to claims 4 and 18 the prior art does not teach or disclose the compensation apparatus, wherein the calibration boards have a strip shape and a width increasing linearly along a scanning direction.

With respect to claims 5 and 9 the prior art does not teach or disclose the compensation apparatus, wherein the strip-like calibration boards have trapezium planes.

With respect to claims 6 and 10 the prior art does not teach or disclose the compensation apparatus, wherein the strip-like calibration boards have triangle planes.

With respect to claims 7 and 11 the prior art does not teach or disclose the compensation apparatus, wherein the strip-like calibration boards have curved perimeters.

With respect to claims 8 and 19 the prior art does not teach or disclose the compensation apparatus, wherein the strip-like calibration boards have widths decreasing linearly along a scanning direction.

With respect to claims 12 and 20 the prior art does not teach or disclose the compensation apparatus, wherein the image processor extracts and compares the

calibrated images to calculate an optical path deviation, and magnitude and direction of the optical path deviation are calculated according to pattern proportion and position variations of the calibrated images of the calibration boards detected by the set of calibration photosensitive devices.


With respect to claims 13 and 21 the prior art does not teach or disclose the compensation apparatus, wherein the method to calculate the optical path deviation includes: calculating the optical path deviation in x-axis according to position alteration of the calibrated images detected by the set of calibration photosensitive devices; calculating the optical path deviation in y-axis according to position alteration of the calibrated images detected by the set of calibration photosensitive devices; and calculating the optical path deviation in z-axis according to position alteration of the calibrated images detected by the set of calibration photosensitive devices.

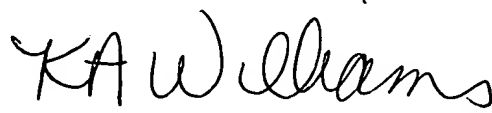
With respect to claims 14 and 22 the prior art does not teach or disclose the compensation apparatus, wherein the method to calculate the optical path deviation further includes: calculating the optical path deviation twisting around y-axis according to the optical path deviation in z-axis; and calculating the optical path deviation twisting around z-axis according to the optical path deviation in y-axis.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 305-5441. The examiner can normally be reached on 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Negussie Worku
02/17/05


KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER